

**MAINSTREAMING the PPP FOR
INFRASTRUCTURE DEVELOPMENT IN INDIA
- EMERGING MODALITIES IN THE
TRANSPORT SECTOR**

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Four Topics to be discussed today

- A. Institutional and operational frameworks developed by GOI for Mainstreaming PPP for Infrastructure Development
- B. Emerging Modalities for PPP for Highway Sub-sector
- C. Emerging Modalities for PPP for Railway Sub-sector
- D. Implication to future PPP operation of ADB

A1. Mainstreaming PPP for Infrastructure Development: Background

- India has chosen a high growth scenario of 9% per annum during the 11th 5year plan (2007-2011). This requires even higher growth of investments, particularly for infrastructure.
- During the above 5 year period, the total of \$320 billion is planned for infrastructure development.
- This magnitude of the funds can not be financed by the public sector alone. The private sector has to play a major role. For this reasons, the GOI has announced the PPP scheme.
- This PPP scheme is not simply the combination of the public sector and private sector contributions. It is intended to be a major paradigm shift in the way to develop infrastructure.
 - ❑ Private sector should genuinely assume risk (a principal modality is BOT scheme).
 - ❑ The pubic sector will not provide funds unless the value for dollar is demonstrated.

A2. Institutional and operational frameworks developed by GOI

Increased private sector (PS) participation in infrastructure development have been constraint by several factors.

Impediments

- The private sector (PS) investors are not interested in high risk and/or low return projects. They may invest, but only to the limited extent, but can not be a main force of development.
- Huge capital investment and resultant long gestation period
- High transaction costs (long negotiation, complicated risk allocation between the public sector and the private sector)
- Difficulty in securing the long term lending.
- The weak capacity of the public sector for the implementation of PPP programs
- The lack of expertise for identifying and developing PPP projects

Measures taken by the GOI

- Introduction of the PPP Scheme to expand the range of the PS participation to less viable segments of the sector.
- Viability gap fund scheme (among 37 VGF proposals submitted to DEA to date, 21 has been given "in-principle approvals". Among the combined projects cost of \$2.2 billion, \$0.56 billion would be VGFs).
- Model concession agreement
- India Infrastructure Finance Company Limited
- Establishment of PPP cells both at the central and state government levels.
- Establishment of India Infrastructure Development Fund to facilitate the preparation of projects (a revolving fund of \$22 m was announced in this year's budget, which will be recovered from successful bidders.⁴

A3. Main instruments for supporting PPP

Viability gap fund:

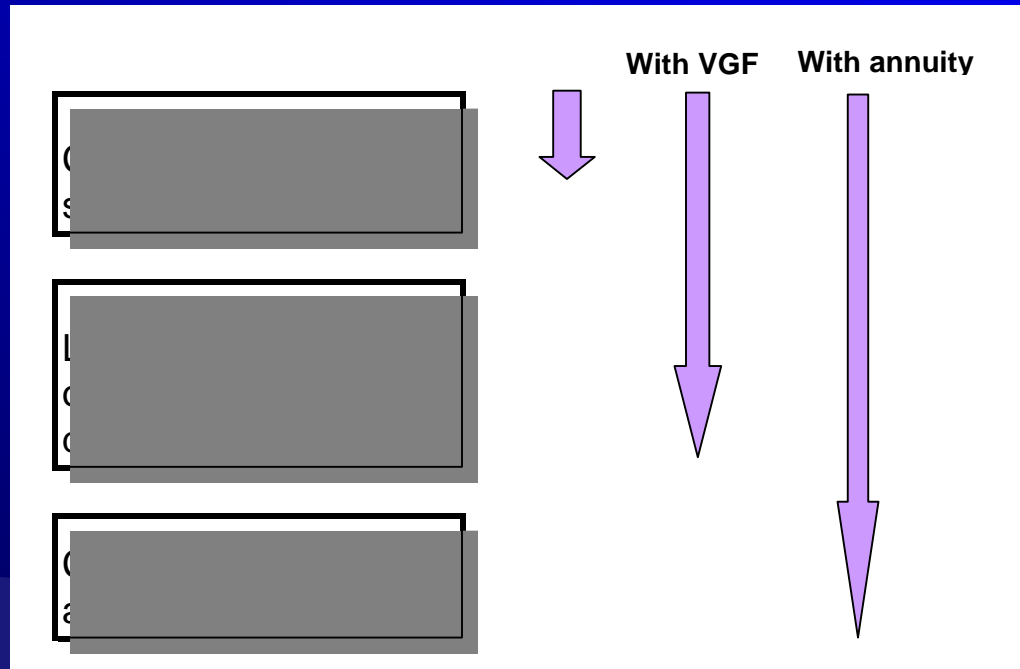
- Original concept was to fill the gap between debt service requirements and the anticipated revenue flow in the form of annuities.
- This concept has been evolved toward a more front-loaded support. MOF has devised a specific assistance program to help PPP scheme to be used for infrastructure development by states and central PSUs.
 - ❑ Grant would be provided by GOI toward the qualified BOT projects up to the amount of 20% of the project cost.
 - ❑ The required grant should not exceed the 40% of the total project cost (the remaining 1%-20% has to be covered by other grant beside the above centrally funded VGF).
 - ❑ The concessionaire should be selected through competitive bidding.
 - ❑ User charges or service charges are to be predetermined.

Annuity schemes:

- Total costs of construction and maintenance would be covered by the public sector.
- Those costs would be paid in annuity and only after the construction is completed.
- Incentive has been incorporated for faster and quality construction and also better maintenance (the amount of annuities would be reduced in case of failure of implementing specific performance requirements).
- Two schemes are available: (i) toll to be collected by the public sector; or (ii) toll to be collected by the concessionaires.

A4: Underlying Reason for the adoption of PPP:

The private sector can cover only a small part of infrastructure development needs. With provision of VGF or annuities, the extent of PS participation can be significantly expanded.



A5: Underlying reason for adopting PPP

Superior time and cost performance of BOT/Annuity concession schemes over the public sector procurement

NHDP I and II were developed primarily through the construction contract scheme (item rate contracts), but 22% of the total program (in terms of lengths) were developed either under annuity or BOT schemes.

An analysis was conducted by NHAI (through PricewaterhouseCoopers in India) in January 2007 for those NHDP I & II projects completed by October 2006 to compare the time and cost performance of three types of the contracts.

	Average length of project	Average size of project (award cost)	Estimated construction cost per km at completion	Weighted average delays	% variations or % changes from awarded contract prices	Note
Construction contracts	31km	\$24 m	\$0.9m/km	16.0 months	20%	105 projects
Annuity projects	60km	\$65m	\$1.1m/km(**)	3.3 months	3%(*)	8 annuity projects
BOT projects	60km	\$71m	\$0.7m/km	-1.1 months (*)	-44%(*)	7 BOT projects

Sources: NHAI/ PricewaterhouseCooper, India, but the estimate of per km cost of construction was made by INRM

(*) After adjusting one extreme case

(**) Per km construction cost include O&M costs.

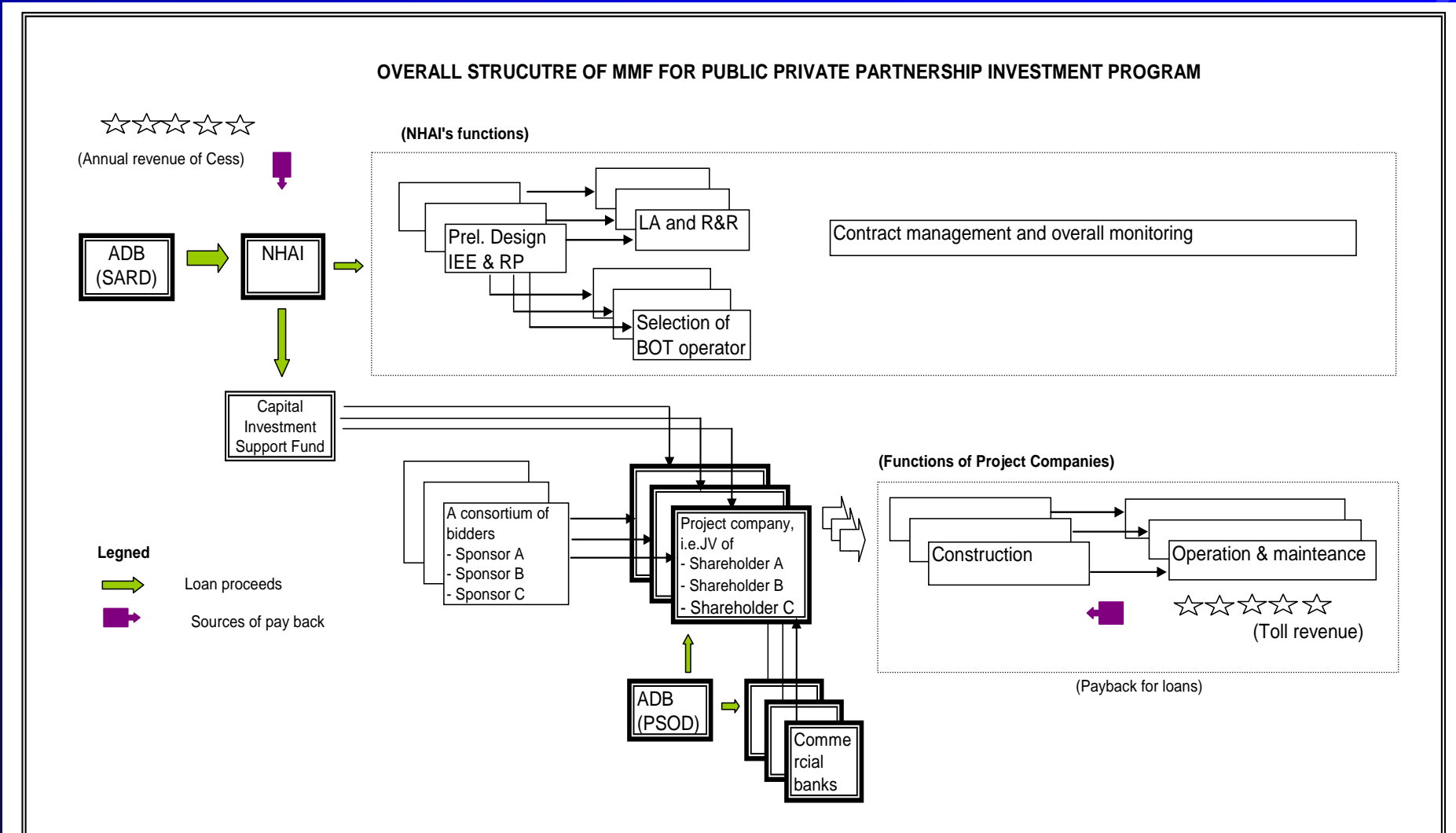
B1. Emerging PPP Modalities: National Highway Segment

Based on the experiences of NHDP I and II, NHDP III (whose estimated program cost is \$13.5 billion) was announced to be developed by the private sector with provision of necessary support from NHAJ either in the form of VGF or annuities. The possible amount of NHAJ contribution was calculated at \$4.4 billion.

	No. of corridors	\$ million
Group A corridors requiring no grant	<u>28</u>	\$ _____
Group B corridors requiring grant of 1%-40%		
Grants of 1%-10% of the project cost	9	\$ 62
Grants of 11%-20% of the project cost	6	\$ 117
Grants of 21%-30% of the project cost	13	\$ 465
Grants of 31%-40% of the project cost	17	\$ 967
Subtotal:	<u>45</u>	\$ 1,611
Group C corridors requiring more than 40%	<u>24</u>	\$ <u>2,810</u>
Total	<u>97</u>	\$ <u>4,421</u>

B2. Emerging PPP modalities: National Highway Segment (II)

Overall scheme of the NHDP III program is illustrated below (NB: This specific diagram was prepared for describing the mechanism of ADB's assistance, but it would be used for the above purpose.)



B3. Emerging PPP Modalities: National Highway Segment: Response of the PS to the program

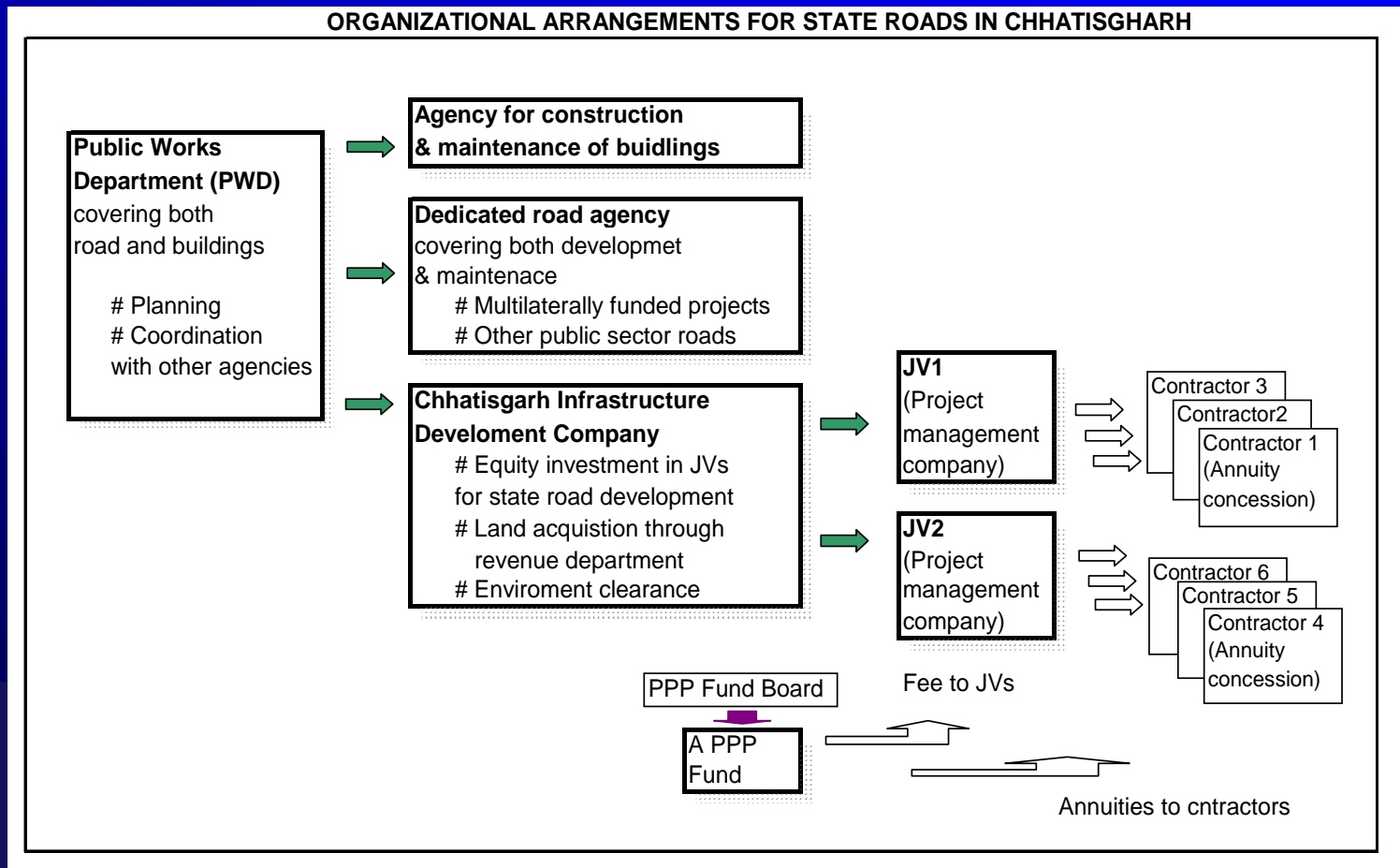
- Private sector response to the NHDP III program has been so far positive. Most of the BOT tenders placed by NHAI have been responded by the private sector in an adequate manner. To date, 21 BOT contracts have been awarded, among around 100 possible contract packages. Some of them were awarded on a negative grant basis.
- Decision to develop the entire NHs under BOT scheme appears to be very ambitious, but this has turned out to be effective. If the contractors have been given an opportunity to invest either in the traditional publicly funded project and the BOT based investment project, many will choose the former since the latter entails too much risks.
- However, if they knew that the BOT is only opportunity they have got for doing business with NHAI, they are willing to bid for BOT projects.

B4: Emerging PPP Modalities: State Highway Segment: Sector wide project development scheme under BOT

- Most of the Public Works Departments (PWDs) were established in 19th century when roads were developed and maintained by core engineers of the government with use of gangs of construction workers. Under the current systems of procuring civil works and supervision from the private contractors and consultants, the roles of the PWDs should have been changed but little have been changed to date. They are now becoming a major source of financial drain for the states with a significant level of overstaffing.
- If the state governments decide to develop/upgrade their road networks quickly, they often do not count on its own organization, i.e. PWD, but tend to resort to an alternative mechanism such as state road development corporation. Another alternative is the private sector, an example of which is Road Infrastructure Development Company of Rajasthan (RIDCOR).
- RIDCOR is 50:50 JV of GOR and IL&FS, entrusted to upgrade and maintain core state road networks of 1,053 km. RIDCOR is essentially a special purpose vehicle for developing and maintaining state road networks on a BOT basis with right of tolling for a limited period of time.
- The total project cost is Rs. 15,000 m.
 - ✓ Equity (GOR & IL&FS): 500
 - ✓ Subordinate debt (quasi equity: GOR): 2,400
 - ✓ Subordinate debt (quasi equity: IL&FS): 1,100
 - ✓ Term loan (by multiple lenders): 11,000
- IL&FS Transport Network Limited (ITNL) has been engaged as the management and supervision partner for the Project. IL&FS has its own project development arm (formerly internal unit, but it is now IL&FS Infrastructure Development Corporation (IIDC)).
- ADB was requested to finance 2 of 6 packages necessary for the development of the above core state road networks with provision of a loan of Rs 1,100 m (\$24 million) from Private Sector Infrastructure Facility II Project (PSIF II, a financial intermediary loan).
- Because of the multiple roles of IL&FS group, a “conflict of interest” issue was raised during the processing of PSFI (II). With the adoption of several institutional mechanisms, the issue was cleared. The PSIF (II) is under implementation. A current issue is acceptability of a resettlement plan, on which IL&HS and INRM are working on in consultation with RSDD.

B5. Emerging PPP Modalities: State Highway Segment: Sector wide project management scheme

(N.B. This scheme is still preliminary and can be changed later)



C1. Emerging PPP Modalities: Railway Sub-sector

- PPP has now become a main theme of Indian Railway (IR). IR has recently established a PPP cell headed by Executive Director (PPP) who would report to Advisor for Infrastructure.

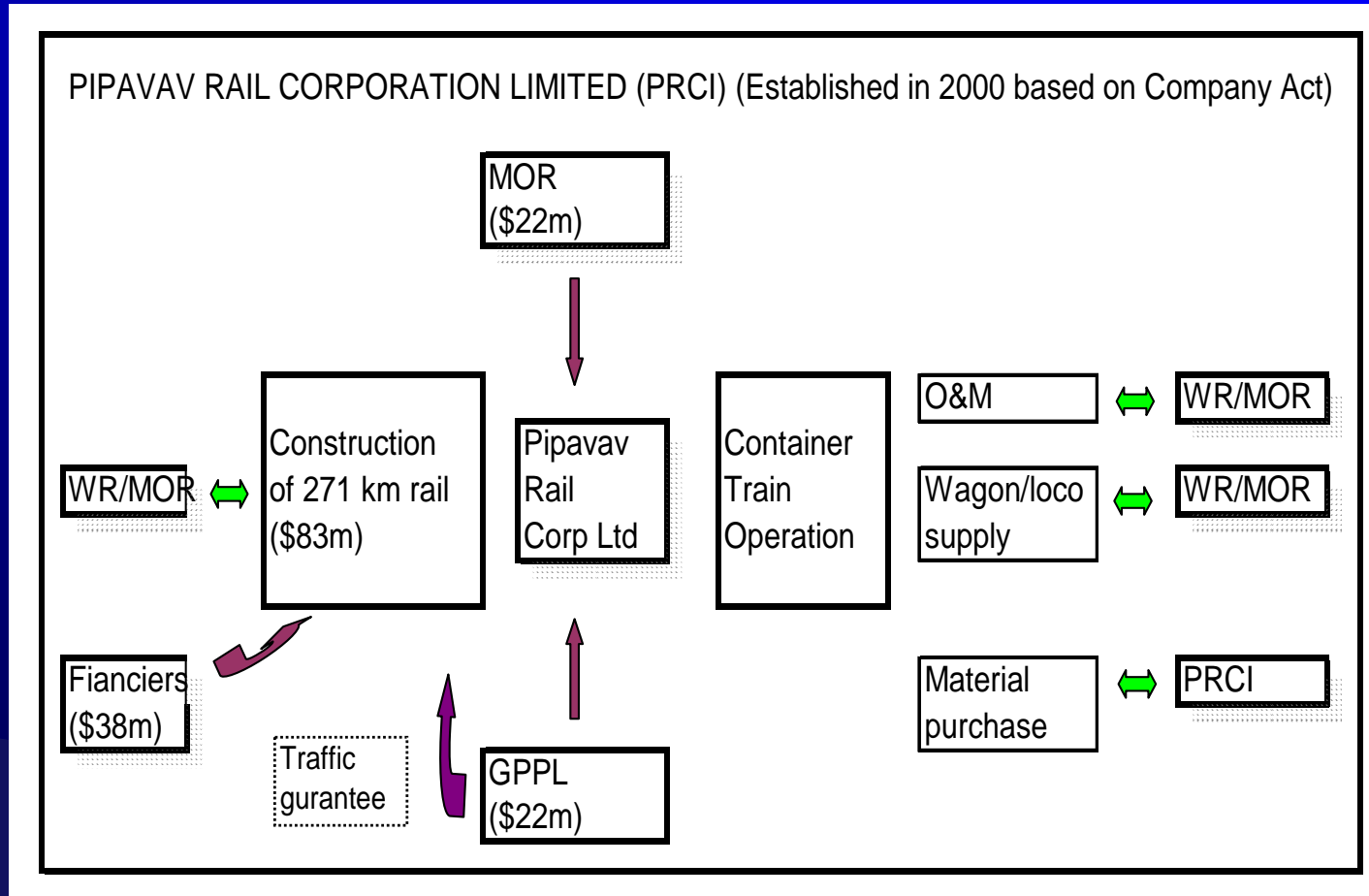
Core business: Rail transport services

- Pipavav Railway Corporation Limited (PRCL): A joint venture established by MOR and Gujarat Pipavav Port Limited (GPPL), the latter of which is currently owned by Maersk with 33 years concession for constructing and operating rail services with right to charge freight (a BOT model). It provides double stack /triple stack container operation /automobile transportation services between Port of Pipavav and MOR's trunk line. See next sheet for more details.
- Dedicated freight corridor: \$6 billion projects, currently consisting of Mumbai/Delhi (Western Corridor) and Delhi/Hauwra (Western corridor). Eastern Corridor was decided to be developed as double stack operation with use of diesel engine. It will introduce a arrangement of PPP with three tier structure:
 - 1st tier: private sector container operators (14) to sell space or container haulage services to users (marketing)
 - 2nd tier: Railway transport services to be provided by IR
 - 3rd tier: Rail infrastructure to be developed by SPV owned by MOR

Non core business

- MOR will make it open for PS participation for non core businesses, including: locomotive/coach/wagon manufacturing; logistics & freight service; catering services, station upgradation; passenger hotels; parcel services; road over & under bridges; mechanized track maintenance; rail Connectivity to neighbouring countries; rail connectivity to industrial clusters; rail electrification projects; uneconomic branch lines; suburban railways systems; rolling stock maintenance; modernization for signalling & telecommunication; tourist train operations; ticketing.
- A likely scenario would be to establish another SPV in addition to the existing the public sector undertakings (IRCON, RITES, CONCOR, IRFC, RAILTEL, KRC, IRCTC). Underneath, several JVs would be established: e.g. JVs for manufacturing locomotives, coaches, wheels etc.
- They intend to move very quickly. The project have to be materialized in one or two year time. ADB has been informally requested to provide TA for PPP.

C2: Pipapav Railway Corporation Ltd



D1. Challenges for ADB Operations

Possible areas of ADB operation for PPP modalities

- Funding of VGFs, possibly combined with pre-construction activities (as planned for NH PPP Project: see Attachment 1 for possible MFF structure)
- Financial intermediary loans (as has been done in PSFI (II) or planned financing for IIFCL)
- Financing of annuities: Constraints: (i) charter requires ADB loan proceeds to be used only for those having already disbursed; and (ii) payment of annuities would last for 12 years or longer beyond project implementation period. Possible approaches..
- PSOD's equity investment, loans and/or guarantee for the concessionaires, including a complementary financing scheme
- Provision of partial credit guarantee in combination with mono line services for project finance (see Attachment 2 for concept)

Business process related issues

- ADB's project processing cycle
- Procurement requirements
- Safeguard requirements

D3: Process of structuring Insured bonds

